BID ADDENDUM #1

Clarifications and Response to Bidder Questions

Shore Road Bridge Rehabilitation

Winchester, MA

May 13, 2025

Note: Per this Addendum #1 the bid opening date has been changed to May 20, 2025, at 10:30AM.

Response to Bidder Questions:

1. **Will a NPDES DRGP permit be required for dewatering groundwater? If so, has the lead time for acquiring the DRGP permit been assumed in the project schedule?**

   An NPDES DRGP permit will not be required. The Contractor shall notify the Owner and the Engineer should they encounter any oily sheens.

2. **Can the "dry season" ordinary water elevation be provided for bidding purposes?**

   The water levels of Aberjona River in the area of Shore Road are regulated by the Center Falls Dam. The dam's spillway crest is at ~ elev. 16 NAVD 88, which sets the ordinary water elevation. The water level can be dropped by a few feet with coordination with DPW, and outside herring TOYs. Refer to the Order of Conditions issued by the Winchester Conservation Commission for defined TOY restrictions.

3. **Are there any hydraulic opening restrictions for the culvert related to the coffer dam?**

   No more than approximately 50% of the waterway shall be blocked at any one time.

4. **Can you please confirm if Epoxy or Black rebar is to be used? The specifications and drawings provide different information.**

   Steel reinforcing shall be epoxy coated.

5. **Can you confirm which concrete mix is to be used for the partial depth concrete repairs? The specifications and drawings provide different information.**

   Concrete mix for partial depth repairs shall be 5000 PSI, 3/8 IN., 710 HP Cement Concrete.

6. **Demolition and Site Clearing Specification 31 10 00 states hazardous waste removal is to be performed by a qualified and licensed hazardous waste contractor. Please confirm hazardous waste materials are not expected to be encountered on this project.**

   Hazardous waste materials are not anticipated.

7. **Regarding specification section 03 41 00, please confirm no mockups will be required for the precast guard rail transitions.**

   Mock-ups will not be required for the precast guardrail transitions.

8. **Regarding specification section 03 41 00, is the contractor required to provide PE Stamped shop drawings and buoyancy calcs for the precast guard rail transitions? Sheets 6-8 of the bridge drawings have details for these precast pieces.**

The Contractor is not required to provide PE Stamped shop drawings and buoyancy calcs for the precast guardrail transitions.

9. **Can you confirm that CIP Concrete field testing will be by the Owner.**

   Field testing shall be by the Contractor with Owner approval.

10. **Due to limited space on site, please confirm that a field office will not be required for the Owner/Engineer.**

    A field office will not be required for the Owner/Engineer.

11. **The Invitation to Bidders references HAZWOPER 40 Hour Certification, but there is nothing in the bid documents that leads us to believe it is required. Please confirm if this certification is required.**

    HAZWOPER Certification is not required.

12. **Per the specifications, the Contractor shall arrange for and provide all police details required by the Town of Winchester Police Department to be present at or adjacent to the site for traffic control purposes. As the Town will be deciding when police details are required and not the Contractor, can an allowance item be added to the bid to reimburse the Contractor for actual police details used on the project?**

    An allowance item will be added to the bid.

13. **The contract documents reference the 2025 MassDOT Standard Specifications. Can you please confirm that Heat of Hydration Analysis will not be required for any of the 5000 HP mixes for the bridge structure.**

    A heat of hydration analysis will not be required.

14. **FYI there is an addendum shown on Accent Blueprints but it is not for this project. Have there been any addenda?**

    This is the first addendum issued. There are no previous addenda.

15. **Is there any monthly flow and/or water level data that can be used to evaluate water control alternatives?**

    The water levels of Aberjona River in the area of Shore Road are regulated by the Center Falls Dam. The dam's spillway crest is at ~ elev. 16 NAVD 88, which sets the ordinary water elevation. The water level can be dropped by a few feet with coordination with DPW, and outside herring TOYs. Refer to the Order of Conditions issued by the Winchester Conservation Commission for defined TOY restrictions.

16. **Will it be possible to drawdown the pond for the work.**

    The water level can be dropped by a few feet with coordination with DPW, and outside herring TOYs. Refer to the Order of Conditions issued by the Winchester Conservation Commission for defined TOY restrictions.

17. **The plans and specifications indicate that the type of water control is to be selected by the contractor. Has the Engineer evaluated any viable alternatives during project design as the typically high water levels the tight conditions within the culverts make sectioning off the work areas as proposed very challenging.**

    Previous projects were constructed in the river successfully using localized in-channel water controls in conjunction with the drawdown of the river. The provisions are intended to provide the greatest latitude for their own means and methods.

18. **Would it be possible to push the entire completion date to November 2025?**

    The Project must be partially completed, open to traffic and pedestrians by September 1, 2025, and be fully completed no later than November 30, 2025. Pedestrian access may be provided using the temporary barricades and bridge traffic may be open to one lane only per the traffic management plan.

19. **We were wondering if only a road opening and demolition permit would be required for this work from the Town (there are no utilities on this one). I attached the drawings for reference.**

    If this is the case, can you please let us know what the permit fees are for these two permits, please? We will be looking for this information by Wednesday this week as the bid goes in Thursday morning.

    Permit fees would be waived

20. **Notes on Sheet 4 of 9 on the bridge drawings call for removal of deteriorated concrete and asphalt patches from the existing deck surfaces, and to patching the areas with 5000 PSI concrete. For bidding purposes can the limits (SF and CY) of these deck repairs be provided?**

    The approximate area and volume of deck patches is 315 SF and 3 CY, respectively, spread over Cells 2 and 3.

Attachment A
Revised Advertisement for Bids

(Revised bid date and removed language requiring HAZPOWER 40 Hour Certification)

ADVERTISEMENT FOR BIDS

SHORE ROAD BRIDGE REHABILITATION (BRIDGE NO. W-40-029)

Sealed lump sum bids will be received by the Town of Winchester Department of Engineering, at 71 Mt. Vernon Street, Lower-Level Town Hall, Winchester, MA 01890, until 10:30 am, on **May 20, 2025** and at that place and time be publicly opened and read aloud. All bidders will be notified of the apparent low bidder. All bidding procedures will be in accordance with the Massachusetts General Laws Chapter 30, Section 39M inclusive as amended.

Prevailing Wages, as determined under M.G.L. c. 149, § 26-27H shall apply on this project. Materials, equipment, and supplies used on this project are exempt from sales tax to the extent provided by M.G.L. c. 64H, § 6(f). The Project is expected to commence on or about **June 15, 2025** and be partially completed, open to traffic and pedestrians by September 1, 2025, and be fully completed no later than **November 30, 2025.** Time is of the essence for the completion of this project.

The Instruction to Bidders, Form of Bid, Form of Contract, Plans, Specifications, and Form of Bid Bond, Performance and Payment Bond, and other contract documents will be available starting **April 30, 2025**. Copies of these documents may be obtained from Accent Blueprint. To access the documents go to www.accentblueprints.com and set up an account. A copy of the plans and specifications is available for review at the Engineering Department, 71 Mt Vernon Street, Winchester, MA 01890.

Bid Deposits shall be submitted in the amount of 5% of the bid price including any alternates. The Bid Deposit shall be made payable to the Town of Winchester and shall be either in the form of cash, certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or a bid bond issued by a surety licensed to do business in the Commonwealth of Massachusetts; and shall be conditioned upon the faithful performance by the principal of the agreement contained in the bid. The Town of Winchester reserves the right to reject or approve a surety. The Bid Deposits of the three (3) lowest responsible and eligible bidders shall be retained until the execution and delivery of the Contract.

The contract will be awarded to the bidder deemed by the Town of Winchester to be the lowest responsible and eligible bidder. Selection of the successful bidder will be based upon bidder qualifications, including evidence of past performance on similar projects, and bid price. The Contract award is subject to the availability of funding.

The successful general bidder will be required to furnish a Performance Bond and a Labor and Materials Bond, each of which shall be in the amount equal to one hundred percent (100%) of the contract price.

The Town of Winchester reserves the right to reject any bid which, in its judgment, fails to meet the requirements of this Advertisement for Bids or which is incomplete, conditional, or obscure, or which contains additions or irregularities, or in which errors occur in addition to the foregoing. The Town of Winchester also reserves the right to reject any and all proposals if it deems such rejection(s) to be in the best interest of the Town. The Town of Winchester further reserves the right to waive any minor discrepancies or informalities, to permit a bidder to clarify discrepancies or to conduct discussions with all qualified bidders in any manner necessary to serve the best interests of the Town. Any fees or other expenses of the bidders associated with this Advertisement for Bid process are solely the responsibility of the bidders.

No bidder may withdraw its bid within sixty (60) days (Saturdays, Sundays and Holidays excluded) after the date designated above for the opening of the bids. Any bid submitted will be binding for sixty (60) days after the time of bid opening.

All telephone calls and correspondence in connection with this Project should be addressed to Kristofer Kretsch, PE, at 617-607-2763 or be emailed to kkretsch@vhb.com.

The Town of Winchester is an affirmative action/equal opportunity employer and encourages participation from certified minority and women-owned businesses in this Advertisement for Bid. The successful bidder must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, national origin, or any other basis prohibited by law.

Each bidder shall visit the site of the proposed work and shall fully acquaint himself with the conditions as they exist and shall also thoroughly examine the contract documents. Failure of bidder to visit the site and acquaint himself with the contract documents shall in no way relieve the bidder from any obligation with respect to his bid.

INSTRUCTIONS TO BIDDERS

1. GENERAL; DEFINITIONS

a. In accordance with the Advertisement for Bids, a copy of which is bound herewith, the Town of Winchester (the "Owner"), invites sealed bids on the separate copies of Bid Forms furnished for that purpose, for construction of the **Shore Road Bridge Rehabilitation Project** ("Project"). The "Work" consists of the Project as more specifically described in the contract drawings and specifications and shall include all incidental work necessary or customarily done for the completion of the Project.

b. The Bound-in Bid Forms in the Contract Documents are for continuity and the convenience of bidders and are not to be detached from the Contract Documents, filled out or executed.

c. The following definitions shall apply in these Instructions and in the other Contract Documents, unless otherwise specified.

I. The term "bidding documents" shall include the Advertisement for Bids, these Instructions, the bid forms, bond forms, contract forms and other Contract Documents bound herewith, and shall include the Drawings, the Specifications, and all Addenda issued prior to receipt of bids.

II. The term "Contract Documents" shall mean the Contract entered into between the Owner and the successful bidder, including all documents enumerated as Contract Documents in the Agreement between Owner and Contractor, and all Modifications (as defined in the Contract) issued after execution of the Contract.

III. The terms "Addenda" and "Addendum" shall mean written documents and/or drawings issued by the Owner prior to execution of the Contract which supplement, modify, correct, explain or interpret the bidding documents.

2. RECEIPT, OPENING AND REJECTION OF BIDS

a. Bids will be received by the Owner at the Department of Engineering, 71 Mt. Vernon Street, Town Hall, Winchester, Massachusetts, until **Tuesday, May 20, 2025 at 10:30 a.m.** and then at said office publicly opened and read aloud.

b. The Owner reserves the right to:

I. Reject any proposal which is not accompanied by the required bid deposit or which, in the Owner's judgment, fails to meet the requirements of the Advertisement for Bids, the Instructions or statutory requirements, or which is incomplete, conditional, or obscure, or which contains additions or irregularities, or in which errors occur in addition to the foregoing;

II. Reject any and all proposals if it deems such rejection(s) to be in the best interest of the Owner;

III. Consider informal and reject any bid which contains erasures, alterations, additions, errors or irregularities of any kind, or which contains proposed prices for any class or item of work which are, in the judgment of the Town, substantially less or more than the actual cost to complete the Work as that term is defined in the Contract Document; or

IV. Notwithstanding its rights under items 2b(i)-(iii) above, waive any minor discrepancies or informalities, to permit a bidder to clarify discrepancies or to conduct discussions with all qualified bidders in any manner necessary to serve the best interests of the Owner.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof.

3. CONTRACT AWARD

The Owner will award the contract to the lowest eligible and responsible bidder within thirty business (30) days, after (i) the opening of bids or (ii) the receipt by the Owner of any approvals necessary from Federal or State agencies in connection with the project, whichever is later. As used herein, the term "lowest responsible and eligible bidder" shall mean the bidder (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work as further described in the Contract Document; (2) who shall certify that he is able to furnish labor that can work in harmony with all elements of labor employed or to be employed in the Work; and (3) who obtains within ten (10) days of the notification of contract award the security required under Section 7 below.

The successful bidder will be notified in writing, by mail or otherwise, that its bid has been accepted and that it has been awarded the Contract. The successful bidder shall execute the Contract and furnish the required bonds, at the offices of the Town if requested, within ten (10) days after presentation of the contract to the bidder or notice to the bidder that the Contract is ready for execution.

The Owner shall not enter into a contract with, and shall not approve as a subcontractor furnishing labor and materials for a part of any work of this contract, a foreign corporation which has not filed with the Owner a certificate of the Secretary of State of the Commonwealth of Massachusetts stating that such corporation has complied with M.G.L. c. 156D and the date of such compliance. The Owner shall report to said Secretary of State and to the Department of Corporations and Taxation of the Commonwealth of Massachusetts any foreign corporation performing any work under this contract or any such subcontract, and any person, other than a corporation, performing work under this contract or any such subcontract, and residing or having a principal place of business outside the Commonwealth of Massachusetts.

4. PREPARATION OF BIDS

Each bid must be submitted on the prescribed bid forms, must be signed and accompanied by the Non-Collusion Affidavit form, and all Additional Bid Requirements that are supplied to you in the Proposal Package. The bid shall state the legal name of the bidder and shall be signed in ink by a person or persons legally authorized to bind the bidder to a contract.

The name and title of the person or persons signing the bid shall be typed or printed below the signature(s).

All blank spaces for bid prices must be filled in, with ink or typewriter in both words and figures, and all of the foregoing Certifications must be fully completed and executed when submitted. Where required, bid prices for each item on the bid form shall be stated in both words and figures. Where itemized lump sum or unit prices are called for, all such prices shall be provided by the bidder. In the event of a discrepancy between prices written in words and prices written in figures, the written words shall govern.

Each bid must be submitted in a sealed envelope bearing on the outside the name of bidder, his address and the name and contract number of the project for which the bid is submitted. If the bid is mailed, the bidder shall enclose its sealed bid and bid deposit in an outer envelope addressed as follows:

FROM: [Bidder's name and business address]
RE: **Shore Road Bridge Rehabilitation Project**
TO: **Office of the Town Engineer**

All bidders are cautioned to allow ample time for transmittal of bids. Bidders are solely responsible for delivery to and receipt by the Owner of bids by the bid deadline. Bids received after the specified time will not be accepted or recognized. The time of receipt will determine the acceptability of mailed bids, regardless of postmark.

5. EMAIL MODIFICATION

Any bidder may modify his bid by email communication at any time prior to the scheduled closing time for receipt of bids provided such email communication is received by the Owner prior to the closing time and, provided further, the Owner is satisfied that a written confirmation of the email modification over the signature of the bidder was mailed prior to the closing time. The email communication should not reveal the bid price but should provide the addition or subtraction or other modifications so that the final prices of terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two (2) business days after the closing time, no consideration will be given to the email modification.

6. QUALIFICATIONS OF BIDDER

The Contract will be awarded to the lowest bid submitted by a responsible and eligible bidder. As used herein, the term “lowest responsible and eligible bidder” shall mean the following: To be considered “responsible” the bidder shall possess the skill, ability and integrity necessary to faithfully perform the work called for by the Contract, based upon a determination of competent workmanship and financial soundness in accordance with the provisions of M.G.L. Ch. 30 Section 39M. To be considered “eligible” the bidder shall be able to meet all requirements for bidders set forth in M.G.L. Ch. 30, Section 39M and not be debarred from bidding, and shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. Without limitation, the investigation of a

bidder may seek to determine whether the bidder is authorized to do business in the Commonwealth of Massachusetts, has had relevant previous experience, and has available equipment, forces and financial resources adequate to assure the Owner that the Work will be completed in accordance with the Contract Documents. The Owner may contact references, and may consider evidence of problems with past performance, such as defaults, contract terminations, imposition of damages or other failures to perform. The amount of other Work to which the bidder is committed may also be considered. The scope of the Owner's investigation of any particular bidder shall remain within the Owner's discretion.

To assist the Owner in its investigation of bidder qualifications, each bid **must include** the name of the Superintendent who is to be used on this project, and his/her experience. Each bid **must also include** a comprehensive list of:

1. Any and all citations and/or violations issued by regulatory agencies and/or judgments against bidder from a court of law.
2. All assessed penalties or liquidated damages, and the project in which they occurred.
3. Any and all contract terminations.
4. A list of all projects worked on over the past three years.
5. A list of the total number of supervisors and workers intended to be assigned to this Project.

The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. The Owner's decision or judgment on these matters will be final, conclusive, and binding. Conditional bids will not be accepted.

7. BID SECURITY

Bid Deposits shall be submitted in the amount of 5% of the bid price including any potential alternates. The Bid Deposit shall be made payable to the Town of Winchester and shall be either in the form of cash, certified check, treasurer's or cashier's check issued by a responsible bank or trust company, or a bid bond issued by a surety licensed to do business in the Commonwealth of Massachusetts; and shall be conditioned upon the faithful performance by the principal of the agreement contained in the bid.

All bid deposits, except those of the three lowest responsible and eligible bidders, will be returned within ten (10) business days, after the opening of the general bids. The bid deposits of the three lowest responsible and eligible bidders will be returned upon the execution and delivery of the Contract, or if no award is made, upon the expiration of sixty business (60) days, except that, if any bidder fails to perform his agreement to execute a Contract and furnish a Performance Bond and a Labor and Materials Payment Bond as stated in his bid, his bid deposit shall become the property of the Town of Winchester as liquidated damages; provided that the amount of the bid deposit which becomes the property of the Town of Winchester shall not, in any event, exceed the difference between his bid price and the bid price of the next lowest responsible and

eligible bidder; and provided further that, in case of death, disability or other unforeseen circumstances affecting the bidder, his bid deposit may be returned.

8. TIME OF COMPLETION

Bidder must agree to commence work on a date to be specified in a written "Notice to Proceed" from the Owner and to be partially completed, open to traffic and pedestrians by September 1, 2025 and be fully completed no later than **November 30, 2025.** Time is of the essence for the completion of this project.

9. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

a. It is the responsibility of each bidder before submitting a bid to (1) examine the Bidding and Contract Documents thoroughly; (2) examine the location of the Project to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work; (3) Consider Federal, State, and local laws, regulations, and ordinance that may affect cost, progress and performance of the Work; 4) Notify the Owner of all apparent conflicts, errors, or discrepancies in the Contract Documents.

b. Before submitting a bid, each bidder will be responsible to make or obtain such explorations, tests, and data concerning physical conditions which may affect cost, progress, performance or furnishing of the Work and which the bidder deems necessary to determine its bid for performing the Work in accordance with the time, price, and the terms and conditions of the Contract Documents. Failure of a bidder to visit the site and acquaint itself with the bidding documents or to attend the pre bid conference, if any, shall in no way relieve the bidder from any obligation with respect to its bid or under the Contract if awarded the bid.

c. Owner may, at a bidder's request, provide each bidder access to the site to conduct such explorations and tests as such bidder deems necessary for submission of a bid.

d. The submission of a bid will constitute a representation by the bidder that the bidder has complied with every requirement of the Specification, that without exception the bid is premised upon performing and furnishing the work required.

e. No claim for any extra monies will be allowed because of unintentional error or conflicts in the Contract Documents.

f. The failure or omission of any bidder to examine any form, instrument, or document and to fail to be familiar and visit the site will not relieve a successful bidder of the obligation to furnish all material, labor and equipment necessary to carry out the provisions of the Contract.

10. ADDENDA AND INTERPRETATIONS

No oral interpretation of the meaning of the plans, specification or other bidding documents will be made to any bidder. Every request for such interpretation shall be in writing addressed to **Kristofer Kretsch, PE, VHB, 260 Arsenal Place #2, Watertown, MA 02472, 617-607-2763, kkretsch@vhb.com,** and, to be given consideration, must be received at least fi

ve (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications issued not later than two (2) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda or interpretation shall not relieve such bidder from any obligations under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

11. SECURITY FOR FAITHFUL PERFORMANCE

Simultaneously with his delivery of the executed contract, the Contractor shall furnish a surety bond as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be provided by a duly authorized surety company satisfactory to the Owner. The successful general bidder will be required to furnish a Performance Bond and a Labor and Materials Bond, each of which shall be in the amount equal to one hundred percent (100%) of the contract price.

12. POWER OF ATTORNEY

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their powers of attorney.

13. NOTICE OF SPECIAL CONDITIONS

Attention is particularly called to those parts of the Contract Documents and specifications, which deal with the following:

a. Inspection and testing of materials

b. Insurance requirements

c. Wage rates

d. Non-discrimination in employment

e. OSHA 10 Certification

f. CORI Requirements

14. LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable Federal and State laws, municipal bylaws and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract and the Work throughout, and will be deemed to be included in the Contract the same as though herein written out in full.

The award of the Contract is governed by M.G.L. c. 30, § 39M. Certain provisions of this and other applicable statutes are summarized or referred to in the Instructions to Bidders and other Contract Documents. Whenever any of the Contract Documents set forth or summarize applicable statutory provisions, whether or not the statutes have been specifically referred to, such summaries are for convenience only, do not purport to be complete or correct as summaries in any material particular, and shall in no respect supersede, expand or limit rights or duties of the Town or bidders in matters governed by statute.

Minimum rates of wages for work performed under this contract will be as determined by the Division of Occupational Safety of the Massachusetts Department of Labor and Work Force Development in accordance with the provisions of M.G.L. c. 149, §§ 26-27H. Attention is called to serious penalties established under law for violation of these provisions. The schedule of wage rate determinations applicable to this contract is included in the bidding documents.

15. PROTECTION AND RESTORATION OF PROPERTY

The Contractor, in constructing or installing facilities alongside or near sewers, drains, water or gas pipes, electric or telephone conduits, poles, sidewalks, walls or other structures shall, at his expense, sustain them securely in place, cooperating with the officers and agents of the various utility companies and municipal departments which control them so that the services of these structures shall be maintained. He shall also be responsible for the repair or replacement, at his own expense, of any damage to such structures caused by his acts or neglect and shall leave them in the same condition as they existed prior to the commencement of work.

In case of damage to utilities, the Contractor shall promptly notify the Owner and shall, furnish laborers to work temporarily under the Owner's direction in providing access to the utility. Pipes or other structures damaged by the operation of the Contractor may be repaired by the Town of Winchester or by the utility company, which suffers the loss. The cost of such repairs shall be borne by the Contractor without compensation therefore.

It shall be the responsibility of the Contractor to determine location, size, type, etc., of all underground utilities from the Town of Winchester, and utility company concerned and to maintain all utilities in place during construction.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved in protecting or repairing property as specified in this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed thereafter.

16. PUBLIC SAFETY AND CONVENIENCE

Attention is directed to the fact that the work on this project is to be performed on properties which are utilized by pedestrians. Contractor shall furnish, install, maintain, and move all warning devices, barricades, signs, flares, bridging materials, special apparel, and other safety measures and controls necessary for the protection of motorists, of pedestrians, and of his own personnel. When, in the judgment of the Owner, construction operations constitute a hazard to traffic in the area, the Contractor may be required to suspend operations during certain hours.

17. SALES TAX

M.G.L. c. 64H, § 6(f) exempts from Massachusetts sales tax building materials and supplies to be used in the Project, and bidders shall not include in their bids any amount therefor. The words “building materials and supplies” shall include all materials and supplies consumed, employed or expended in the construction, reconstruction, alteration, remodeling or repair of any building, structure, public highway, bridge, or other such public work, as well as such materials and supplies physically incorporated therein. Said words shall also include rental charges for construction vehicles, equipment and machinery rented specifically for use on the site of the Project or while being used exclusively for the transportation of materials for the Project. The

number of the certificate granted by the Commissioner of Revenue for use in obtaining the exemption will be given to the successful general bidder. Each bidder shall take this exemption into account in calculating its bid, and shall not include any sales tax on its bid.

18. INTEREST OF MEMBERS, OFFICERS, OR EMPLOYEES OF THE OWNER; MEMBERS OF LOCAL GOVERNING BODY, OR OTHER PUBLIC OFFICIALS

No member, officer or employee of Owner, or its designees or agents, no member of the governing body of the locality in which the project is situated, and no other public officials, member, officer or employee of the Owner, or its designees or agents, no members of the governing body of such locality or localities who exercises any functions or responsibilities with respect to the Project during his tenure or for one year thereafter, shall have any interest, direct or indirect, in any agreement, contract or subcontract, or the proceeds thereof, for Work to be performed in connection with the Project. The Contractor shall incorporate or cause to be incorporated, in all of its agreements, contracts or subcontracts a provision prohibiting such interest pursuant to the purposes of this section.

19. NON-DISCRIMINATION IN EMPLOYMENT

Contract for Work under this proposal will obligate the contractors and subcontractors not to discriminate in employment practices.

Bidders must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive the award of the Contract.

The successful bidder must be prepared to comply in all respects with the Contract provisions regarding Equal Employment Opportunity.

20. SEPARATE CONTRACTS

a. The Owner reserves the right to perform construction or operations related to the Project under separate contracts, and/or with the Owners' own forces in connection with other portions of the Project or other construction or operations on the site under separate Contract.

b. The Contractor shall cooperate fully with separate contractors with regard to storage of materials and execution of separate contract work, and shall connect and coordinate the separate contractors' construction and operations with the Contractor's as required by the Contract Documents.

c. It shall be the Contractor's responsibility to inspect all separate contractor work affecting the Work and to report to the Owner any irregularities or defects that will not permit completion of the Work in a satisfactory manner.

d. When results of separate contractors' work depend on proper results for the Contractor's Work, the Contractor shall immediately report to the Owner or Engineer any discrepancies or defects that would be unsuitable for proper execution of the Work.

e. It shall be the responsibility of the Contractor to measure the completed work in place and report to the Owner immediately any difference between completed work by others and the Drawings.

f. The Contractor's failure to notify the Owner of such irregularities shall indicate the separate contractors' work has been satisfactorily completed to receive the Work.

g. The Contractor shall not be responsible for defects in the separate contractors' work of which could not then have been reasonably discovered.

21. CORI

Any persons performing unsupervised work must go through the process of a criminal background check or "CORI." The bidder awarded the Contract must provide to the Owner a signed CORI release form and a copy of the driver's license from each and every person who will be working on a site where children are located. The Owner will determine and provide an adequate identification method for approved personnel and reserves the right to refuse access to a school site to any person without this identification without being charged for any service time.

TOWN OF WINCHESTER
SHORE ROAD BRIDGE REHABILITATION (BRIDGE NO. W-40-029)

FORM OF BID

From: _____
(Name of Bidder)

To: Town of Winchester (the "Awarding Authority")

A. The Undersigned proposes to furnish all labor, equipment, tools and materials required for the construction of the _____ (the "Project"), in accordance with the accompanying Contract Documents and plans and specifications prepared by _____ for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. The bid includes addenda numbered _____.

C. The proposed maximum contract price is _____

_____dollars

($ _____). Bidder hereby confirms that it has included bid security in the amount of 5% of the proposed contract price made payable to the Town of Winchester.

D. Alternate One price is _____

_____dollars

($ _____).

E. Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders.

F. Bidder promises and agrees that this Bid will remain subject to acceptance for sixty (60) business days after the day of Bid Opening.

G. The undersigned agrees that, if selected as contractor, he or she will within ten (10) business days, after presentation thereof by the Awarding Authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and a labor and materials or payment bond, each in the form contained in the bidding documents and of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the amount of the contract price, the premiums for which are to be paid by the contractor and are included in the contract price. The undersigned understands and agrees that the bid deposit accompanying this bid shall become the property of the Awarding Authority if the bidder fails to execute such contract or otherwise fails to comply with the terms of this bid.

H. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work, and in the specified time described in the bid and contract documents, and that he will comply fully with all laws and regulations applicable to awards made subject to M.G.L. c. 30, § 39M.

I. The undersigned further certifies under the penalties of perjury that:

1. This bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

2. The said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of M.G.L. c. 29, § 29F, or any other applicable debarment provision or any rule or regulation.

3. Bidder has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

4. The foregoing bid is based upon the payment to laborers to be employed on the Project of wages in an amount no less than the applicable prevailing wage rates established for the Project by the Massachusetts Department of Labor Standards.

5. The bidder has complied with the Immigration Reform and Control Act of 1986, as amended, and with all regulations adopted thereunder, with respect to all of its employees who will be performing work under this contract and further certifies that said contractor does not knowingly employ any person in violation of United State immigration laws. Bidder further certifies that it will require a similar certification to be executed by any subcontractor who will perform work under this contract and will maintain such certifications for inspection by the Awarding Authority upon its request.

J. By signing and submitting this Form for General Bid, the bidder represents that:

1. Bidder has examined copies of all bidding documents.

2. Bidder has familiarized itself with the nature and extent of the Contract Documents, Work site, locality, and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the work.

3. Bidder has studied carefully all reports and drawings of physical conditions included with these specifications, and accepts that all measurements and technical data included herein is the engineer’s estimates and the bidder has made such investigations of his own as necessary and has based his bid on those investigations.

4. Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, and studies (in addition to or which pertain to the physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work) as bidder considers necessary for the performance or furnishing of the Work at the Contract Price, with in the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and no additional examination, investigations, explorations, tests, reports, or similar information of data are or will be required by bidder for such purposes.

5. Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

6. Bidder has given the Awarding Authority written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof is acceptable to bidder.

7. Bidder acknowledges that the Awarding Authority has the right to reject any or all bids and to waive informalities in the bidding, if it deems such rejection(s) to be in its best interest.

8. Bidder represents that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

K. Post-Bid Submittals: If awarded the Contract, the undersigned agrees to furnish, without limitation, the following information prior to the time established for execution of the Contract:

1. Massachusetts Foreign Corporation Certificate, if applicable.

2. OSHA training records for each employee assigned to this project.

L. References: List of all projects of a similar size and scope completed within the last five (5) years, including at least two municipalities for which such work has been performed. Attach additional pages if necessary.

Name of Project	Location	Contact Person	Phone/Email
1.			
2.			
3.			

4._____

Date of Bid: _____

_____
(Print Name of Bidder)

By: _____
(Signature)

_____
(Print Name of Person Signing Bid and Title)

_____
(Business Address)

_____
(City, State and Zip Code)

Telephone: ( )_____

Social Security Number or Federal Identification Number: [1]_____

NOTE: If the bidder is a corporation, indicate state of incorporation, give full names of officers; if a partnership, give full names and addresses of all partners; and if an individual, give residential address if different from business address. Use the following spaces, and additional sheets if necessary:

If a Corporation:

Incorporated in what state:_____

President:_____

Treasurer:_____

Secretary:_____

If a foreign corporation (incorporated or organized under laws other than the laws of the Commonwealth of Massachusetts), is the corporation registered with the Secretary of State of Massachusetts?

Yes _____ No _____

[1] The bidder's Social Security Number and Federal Identification Number will be furnished to the Massachusetts Department of Revenue to determine whether the bidder has met tax filing or tax payment obligations. This request is made under the authority of M.G.L. c. 62C, § 49A.

If the bidder is selected for the work referred to above, it is required under M.G.L. c.30 § 39L to furnish to the Awarding Authority a certificate of the Secretary of State stating that the corporation has complied with M.G.L. c. 156D and the date of such compliance.

If a Partnership: (Name all Partners)

Name of Partner:_____

Residence:_____

Name of Partner:_____

Residence:_____

Name of Partner:_____

Residence:_____

If an Individual:

Name:_____

Residence:_____

If an Individual doing business under a firm name:

Name of Firm:_____

Name of Individual:_____

Business Address:_____

Residence:_____

If other form of business organization, please provide attachment describing the form of organization and the name of officers or partners therein.

Attachment B
Revised Bid Items

(Revised to include Bid Item 13)

Bid Items

The Bidder agrees to perform all the work, including all incidental labor, materials and equipment for the satisfactory completion of the work in full compliance with the content and intent of the specifications and plans of the work, for the following prices. This is a unit price not to exceed project and the bid prices and quantities will be used as the basis of any change order. Bid prices listed are based on performance of the Work as specified in these Specifications shall include all overhead, profit, handling, taxes and all other related charges.

Item No.	Quantity		Description (unit price in words)	Unit Price	Extended Total
1	1	LS	**Mobilization and Site Preparation**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
2	1	LS	**Erosion and Sediment Control**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
3	1	LS	**Demolition and Site Clearing**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
4	1	LS	**Water Management**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
5	1	LS	**Traffic Management**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
6	1	LS	**Excavation, Handling, and Loading**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	

Item No.	Quantity		Description (unit price in words)	Unit Price	Extended Total
7	1	LS	**Alteration to Bridge Structure No. W-40-029 (2D8)**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
8	70	Tons	**Transportation and Disposal**		
			_____	$_____	$_____
			_____ Dollars Per Ton	Per Ton	
9	1	LS	**Roadway Reconstruction**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
10	1	LS	**Site Restoration and Grading**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
11	1	LS	**Demobilization and Site Cleanup**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
12	1	LS	**Record Drawings**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	
13	1	LS	**Police Detail**		
			_____	$ 31,000	$ 31,000
			_____ Thirty-One Thousand Dollar Allowance	Allowance	

Item No.	Quantity	Description (unit price in words)	Unit Price	Extended Total
		Total of All Bid Items (Items 1 thru 13) Basis of Award		
		_____		$_____
		_____ Dollars		

Additive Bid Items

The Owner may elect to include additional selective vegetation removal and plantings within the vicinity of Shore Road as part of this project. Bidders are required to fill out the Additive Alternative Bid Items below which will be used as the basis of any change order. In the event actual conditions vary from our estimate, these unit prices will be the basis for any change order. These items will not count towards the Total Base Bid Price.

Item No.	Quantity		Description (unit price in words)	Unit Price	Extended Total
A	1	LS	**Selective Vegetation Removal and Plantings**		
			_____	$_____	$_____
			_____ Dollars Per LS	Per LS	

Attachment C
Revised Specification Section 01 22 00 – Unit Prices

(Revised to include Bid Item 13)

SECTION 01 22 00

UNIT PRICES

PART 1 – GENERAL

1.1 General

A. All Work performed as described in these Contract Documents will be paid for under one or more of the items listed in the Form of General Bid. All other activities required in connection with performance of the Work, including all work required under Division 1, General Requirements, whether described in the Contract Documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the form of general bid, but will be considered incidental to performance of the overall project.

B. Each unit or lump sum price stated in the Form of General Bid shall constitute full compensation as herein specified for each item of work completed in accordance with the Contract Documents.

C. The payment items listed herein and in the Form of General Bid are intended to provide full payment for the Work shown on the Contract Drawings and specified herein. Any work called for or inferred in the Contract Documents but not listed as a payment item shall be considered incidental to the overall project, which includes mobilization and demobilization of any equipment and materials and any temporary controls.

D. It is the intent of these Specifications to provide a finished product as shown on the Construction Documents and specified herein.

E. The Contractor is responsible for performing the construction of this project in compliance with the Contract Documents. Unit prices and lump sum prices inserted into the Bid Proposal shall include all contingencies listed in the Contract Documents.

F. The Contractor shall not be compensated for costs incurred due to weather conditions.

G. The Contractor shall reimburse the Owner for costs incurred by the Engineer for design and construction administration services which are caused by the Contractor's inefficient or otherwise faulty administration or execution of its Work. These may include but are not limited to the cost of the Engineer to perform:

1. Except when warranted because of a design defect, repeated review of the Contractor's submittals and re-submittals that are incomplete, substantially out of sequence from the submittal schedule provided by the Contractor and agreed to by the Engineer, or otherwise not in conformance with the Contract Documents.

2. An extensive number of responses to the Contractor's requests for information where such information is available to the Contractor from a careful study and comparison of the

Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

3. An extensive number of Change Orders and Work Change Directives requiring evaluation of proposals and the preparation or revision of Instruments of Service and not otherwise caused by the design defects of the Engineer.
4. Consultation regarding replacement of Work resulting from fire or other cause during construction.
5. Evaluation of an extensive number of claims not otherwise caused by design defect.
6. Evaluation of substitutions proposed by the Contractor and making subsequent revisions to Instruments of Services resulting there from.
7. Preparation of design and documentation for alternate bid or proposal requests proposed by the Contractor.
8. Contract administration services provided thirty (30) days or more after Substantial Completion.

1.2 **Quantity Estimates**

A. If the actual Work requires more or fewer units than the estimated units indicated on Bid Form, the Contractor shall provide the required units at the unit prices contracted. Under no circumstances may the Contractor exceed stated quantities without prior written approval from the Engineer.

1.3 **Payment**

A. Payment includes full compensation for all required labor, products, tools, equipment, plants, transportation, services, incidentals, erection, application, or installation of an item of the Work, including overhead and profit.

B. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the work defined in these Specifications and on the Drawings.
5. Loading, hauling, and disposing of rejected materials.
6. Products remaining on hand after completion of work.
7. Additional work undertaken to expedite the Contractor’s operations.
8. Repair or replacement of utilities or other facilities and property located within or adjacent to the Work Area damaged due to Contractor’s operations.
9. Work resulting from a lack of knowledge of existing conditions.

C. Payment will be made by the Owner for all Work actually performed during a particular payment period. Payments for lump sum items will be made based on the percent completion of the pay item. Upon approval by the Engineer, judgments of percent completion of lump sum items will be made in reference to the Schedule of Quantities and Prices provided.

D. Payment of soil disposal will be made upon the Town LSP's confirmation of the accepting facility's weight receipts and executed transportation and disposal documentation.

E. The actual disposal quantity will be determined in the field based on soil screening and other methods which will be used to evaluate the quantity of impacted soil that will be removed and require off-site disposal. The Contractor will only be compensated for what soil was actually removed on a ton-by-ton basis.

1.4 **Measurement of Quantities**

A. Measurement by Weight:

1. Weigh Scales: Scales shall be certified in accordance with applicable laws and regulations for the state in which the scales are located. Certification shall have been made within a period of not more than one year prior to date of use for weighing commodity.

2. The term "ton" will mean the short ton consisting of 2,000 pounds.

3. For shipments to offsite waste management facilities and locations, trucks will be weighed at the receiving facility for the purpose of measuring the quantity of Work for payment.

B. Measurement by Volume:

1. Volumes measured as in-place volumes will be determined by survey approved by the Engineer. The Contractor will retain the services of an independent land surveyor, licensed or registered in the State of Massachusetts, whose approved determination of in-place volumes shall be authoritative and final for the purpose of measurement for payment. To compute in-place volumes of excavation, the average end area method or other methods acceptable to the Engineer will be used.

C. Measurement by Area: Measured by square dimension using length and width or radius, and verified by the Engineer.

D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord, and verified by the Engineer.

E. Measurement by Time: Measure by the actual time rounded to the nearest time unit and verified by the Engineer.

F. Disposal of materials either not suitable for re-use or not needed will be measured by the ton of material taken off-site as accepted by the receiving facility. Measurement will be made for each classification as identified in the payment item list. The contract unit prices shall include all costs associated with stockpiling and disposal, including material handling, maintaining the stockpile area, stockpile sheeting, straw bales, drums, fencing, and signage.

G. No separate measurement or payment will be made for determining suitability of materials for on-site usage.

H. No separate measurement or payment shall be made for the on-site or off-site reuse of excavated, surplus, or waste material, including all sampling, analyses, loading, transporting, and unloading activities related hereto.

1.5 **Assessment of Non-Conforming Work**

A. The Contractor shall replace Work, or portions of the Work, that do not conform to the requirements of the Specifications and Drawings, as assessed by the Engineer.

B. If, in the opinion of the Engineer, it is not practical to remove and replace the non-conforming Work, the Engineer will direct one of the following remedies:

1. The non-conforming Work may remain, but the unit price will be adjusted to a new price at the discretion of the Engineer.

2. The non-conforming Work shall be partially repaired to the instructions of the Engineer, and the unit price will be adjusted to a new price at the discretion of the Engineer.

C. The individual Specification sections may modify these options or may identify a specific formula or percentage price reduction.

D. The authority of the Engineer to assess non-conforming work and identify payment adjustment is final.

1.6 **Eliminated Items**

A. Should any items contained in the Drawings or Specifications be found unnecessary for the proper completion of the Work, the Engineer may, upon written order to the Contractor, eliminate such items from the Work. Any such action shall in no way invalidate the Agreement.

B. The Contractor will be paid for actual Work done and all documented costs incurred, including mobilization of materials prior to elimination of such items.

1.7 **Application for Payment**

A. The Contractor shall submit Applications for Payment as specified in General Conditions of these Specifications.

1.8 **Measurement and Payment of Bid Items**

A. The Bid Form lists the Bid Items and Unit Price Items for the Work. Measurement and payment of the Work covered by the Contract Documents is specified herein below.

1.9 **Description of Bid Items**

Item No. 1 & 2 – Mobilization, Site Preparation, and Erosion Control

1. The work of this section shall be measured on a lump sum basis.

2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor mobilization, site preparation, and erosion control as shown on the Drawings or required in the Specifications.

3. Work required to complete Mobilization, Site Preparation, and Erosion Control includes, but is not limited to:

a. Preparation, submittal, and revision of all required submittals as described in Specification 01 33 00 – Submittals including the Detailed Project Work Plan and Project Schedules.

b. Obtaining required payment and performance bonds.

c. Participation in pre-construction meeting with the Engineer and Owner.

d. Participation in weekly construction meetings with the Engineer and Owner.

e. Coordination with utilities as needed.

f. Performing utility clearance prior to commencement of any subsurface work.

g. Temporary construction facilities and controls including installation of perimeter construction fence, and removal, relocation, and installation for each phase of construction.

h. Relocation of temporary facilities for all phases of construction.

i. Installation of a pedestrian path around the projects limit of work as shown in the Drawings.

j. Labor and materials associated with implementing the flood contingency plan.

k. Protection of utilities as required.

l. Construction and maintenance of temporary support facilities and temporary utilities.

m. Preparation of material and equipment staging areas.

n. Protection of trees and all vegetation not to be removed.

o. Movement of personnel, equipment, and materials to the Site, if such movement is not included in any other Bid Item.

p. Completion of all survey required to control the work and determine measurement and payment as necessary.

q. The lump sum price shall also include obtaining and paying fees associated with any required permits.

r. All other one-time and recurring activities required by the Contractor to complete the Project unless included in another pay item or specifically identified as being the responsibility of Others.

s. All material, labor, tools and equipment required for the Contractor to install erosion control measures as shown on the Drawings, required in the Specifications, by issuing permitting authority, or at the request of the Engineer.

t. Installation, inspection, maintenance, and repair of all sediment and erosion controls including, mulching, tree protection, straw wattles, erosion control matting, and temporary seeding as specified in Specification 31 25 00 – Erosion and Sediment Controls and as shown on the Drawings during all phases of construction.

Item No. 3 – Demolition and Site Clearing

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor to complete Demolition and Site Clearing work as shown on the Drawings or required in the Specifications.
3. Work required to complete Site Clearing includes, but is not limited to:
    a. Clearing, staging, stockpiling, loading, and disposal of vegetation, stumps, and roots.
    b. Removal and disposal of vegetation including all roots and stumps in the excavation area.
    c. Removal and disposal or storage of existing utilities as required for construction.
    d. Removal and disposal of bridge superstructure, including existing roadway pavement, concrete sidewalks, steel bridge railing, granite curbs, subbase and all other bridge components as required for construction and shown on the Drawings.
    e. Protection of stored items to be reused. Items damaged while being stored shall be replaced in-kind at no additional costs.

Item No. 4 – Water Management

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor to control surface water runoff, removal of subsurface water, prevent intrusion of river flows, and prevention of sediment laden discharge for all phases of construction.
3. Work required to manage water entering the work site includes, but is not limited to:
    a. Selecting, designing and installing / removing coffer dams capable of preventing / limiting intrusion of flows from the Aberjona River and maintaining a dry excavation for all phases of construction.
    b. Selecting, designing and installing / removing an excavation dewatering system to effectively reduce the hydrostatic pressure and lower the groundwater levels to a minimum of 2 feet below the bottom of excavations. The Dewatering System may include pumps and piping or hose, instrumentation and controls, sumps, wells, well points, and temporary diversion devices.
    c. Provide, maintain, and operate wells, pumps, and related equipment including stand-by equipment of sufficient capacity to maintain excavations free of water 24 hours per day to enable all work to be conducted in-the-dry.
    d. Management and disposal of any stormwater that discharges from existing stormwater outfalls within the work area.
    e. Operations shall be on a continuous (24 hour per day) basis to maintain a dry excavation where excavation or backfill below the water is required.

Item No. 5 – Traffic Management

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor to implement traffic controls on Shore Road and other necessary streets as shown on the Drawings or required in the Specifications.
3. The Contractor shall submit a detailed traffic management plan to the Engineer and Town for approval prior to the start of any work. Work required to complete Traffic Management includes, but is not limited to:
    a. Establishing traffic controls, as necessary, as determined by the Engineer or Owner. Traffic controls shown on the Drawings are the minimum required. If deemed necessary, additional traffic controls shall be supplied by the Contractor at no additional cost to the owner.
    b. Traffic controls may include but are not limited to impact attenuators, temporary barricades, reflectorized drums, temporary construction signs, reflective traffic cones, and all roadwork and temporary traffic signage.
4. The lump sum price shall include any fences, barricades and traffic control deemed necessary by the Engineer or Owner.

Item No. 6 – Excavation, Handling, and Loading

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for Contractor to complete excavation, handling and loading for all phases of construction as shown on the Drawings or required in the Specifications.
3. Excavation shall include all materials encountered in excavation areas including earth, boulders, pavement and incidental items.
4. Work required to complete Excavation, Handling, and Loading includes, but is not limited to:
    a. Excavating, handling, stockpiling and loading of excavated material required to complete the work.
    b. Any on-site transportation and handling of excavated material.

Item No. 7 – Alteration to Bridge Structure No. W-40-029 (2D8)

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor to complete the bridge improvements, and any and all ancillary items necessary, in accordance with the Drawings.
3. Work required to complete the Bridge Improvements includes, but is not limited to:
    a. Fabricate, transport, and install all precast highway guardrail transitions.

b. Furnish and install the cast-in-place concrete shared use path, safety curb, and moment slabs.

c. Fabricate, transport, and install the S3-MTL4 steel bridge railings, and any and all ancillary items necessary.

d. Furnish and install all steel reinforcement, sealants, miscellaneous steel, hardware, bridge rail anchor plates and anchor bolts, and all other items incidental to the work.

e. Drill and grout holes in the existing structure for steel reinforcing dowels.

f. Membrane waterproofing for bridge decks.

Item No. 8 – Transportation and Disposal

1. The work of this section shall be measured on a per ton basis.
2. The unit price to be paid shall include all material, labor, tools and equipment required for Contractor to Transport and dispose of excess material at an approved off-site facility for all phases of construction as shown on the Drawings or required in the Specifications.
    a. Transporting soil from the Site to the disposal area in accordance with Specification Section 02 81 00 – Transportation and Disposal at the approved facility.
    b. For bidding purposes, the Contractor shall assume disposal of 70 Tons of material to complete the Project.
    c. Any sampling and testing required by the disposal facility.

Item No. 9 – Roadway Reconstruction

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for Contractor restore, resurface, and restripe Shore Road as shown on the Drawings or required in the Specifications.
3. Work required to complete roadway reconstruction includes, but is not limited to:
    a. Pavement reconstruction within the limits of work and vicinity of the proposed bridge improvements as shown in the Plans and in accordance with the relevant provisions of Subsection 450 of Division II of the *Standard Specifications*.
    b. Milling and resurfacing within the limits of work to drain towards the proposed stormwater inlets and avoid ponding as shown in the Plans and in accordance with the relevant provisions of Subsection 450 of Division II of the *Standard Specifications*.
    c. Installation of highway guardrail beyond the bridge rail transitions in accordance with the relevant provisions of Subsection 601 of Division II of the *Standard Specifications*.
    d. Installation of concrete shared use path, safety curb and granite curbing.
    e. Installation of roadway traffic loop detectors.
    f. Traffic striping and signage.

Item No. 10 – Site Restoration and Grading

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor fine grade, and seed as shown on the Drawings or required in the Specifications.
3. Work required to fine grade and seed shall include, but may not be limited to:
    a. Furnishing and spreading of topsoil. All areas to be seeded and/or planted shall have a minimum of 6 inches of approved topsoil.
    b. Fine grading to meet the required grades and provide adequate drainage.
    c. Installation of erosion control blanket.
    d. Furnishing and spreading of upland seed mix.
    e. Furnishing and installation of plant species as shown on the drawings.
    f. All areas disturbed during construction shall be seeded and/or planted as shown on the Drawings or to a condition equal to that prior to the start of construction.
    g. Application of lime and fertilizers.
    h. Application of mulch or a bonded fiber matrix to protect newly seeded areas.
    i. Maintenance and reseeding as required to achieve adequate coverage.
    j. Resetting site features or utilities impacted during construction.
    k. Restoration of the Site to a clean, neat, and orderly condition including repair of any additional damaged asphalt, sidewalk, and lawn area, as required by the Engineer.
    l. Repairing any damage to existing site features, utilities, benchmarks, or landscaping to remain.

Item No. 11 – Demobilization and Site Cleanup

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for Contractor to complete the Demobilization and Site Cleanup as shown on the Drawings or required in the Specifications.
3. Work required to complete Demobilization and Site Cleanup includes, but is not limited to:
    a. Removal of all personnel, equipment, and materials from the Site at the completion of the Work.
    b. Removal of temporary facilities, utilities, cofferdams, support of excavation, erosion and sediment controls.
    c. Removal and disposal of construction debris.
    d. Removal of stockpile areas.

e. Restoration of the Site to a clean, neat, and orderly condition including repair of any additional damaged asphalt, sidewalk, and lawn area, as required by the Engineer.

f. Completion of punch list items to substantially complete all work as determined by the Engineer.

Item No. 12 – Record Drawings

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for Contractor to produce an accurate survey of completed work in accordance with Specifications Section – 01 78 39 Record Drawings.
3. Work required to complete a Record Drawing includes, but is not limited to:
   a. Providing an as-built plan of the field elevations, grades and inverts stamped by a Professional Land Surveyor (PLS), registered in Massachusetts.
   b. The plan should detail the horizontal and vertical location of all internal utilities and appurtenances, concealed by finish materials.
   c. Providing a copy of the marked-up design drawings kept by the Contractor.
   d. Providing an electronic version of the as-built plan in AutoCAD® format.

Item No. 13 – Police Detail

1. The work of this section shall be measured on an allowance basis
2. The allowance to be paid shall include all material, labor, tools and equipment required for Contractor to provide police details as required by the Engineer during construction.

Bidders shall include a thirty-one thousand ($31,000) dollar allowance for this line item.

Item No. A – Selective Vegetation Removal and Plantings

1. The work of this section shall be measured on a lump sum basis.
2. The lump sum price to be paid shall include all material, labor, tools and equipment required for the Contractor to remove approximately 600 SF of invasive species by hand methods and in accordance with the Order of Conditions issued by the Winchester Conservation Commission.
3. Work required to remove selective vegetation and plantings includes, but is not limited to:
   a. Invasive vines shall be removed by hand in the area located northwest of the proposed work.
   b. No less than 10 native species of shrubs shall be planted in the area located northwest of the proposed work. Shrubs shall include:
      (3) Sweet pepperbush (*Clethra alnifolia*)
      (3) Grey dogwood (*Cornus racemosa*)
      (4) Black chokeberry (*Photinia melanocarpa*)

PART 2 – PRODUCTS

(Not used)

PART 3 – EXECUTION

(Not used)

(END OF SECTION 01 22 00)

Attachment D
Revised Specification Section 03 41 00 – Precast Concrete

(Revised to remove and/or correct language regarding mock-ups and shop drawing requirements for the precast highway guardrail transitions)

SECTION 03 41 00

PRECAST CONCRETE STRUCTURES

PART 1 – GENERAL

1.1 Summary

A. This section includes the performance criteria, materials, production, and erection of structural precast concrete for the project. The work performed under this section includes all labor, material, equipment, related services, and supervision required for the manufacture and erection of the structural precast concrete work shown on the Drawings. This includes but is not limited to the following:

1. Structural design, in compliance with applicable Precast/ Concrete Institute (PCI) and Occupational Safety and Health Administration (OSHA) requirements. Design of all connections, stresses incurred during manufacture, lifting, handling and erection, adequacy of connections to assure structural integrity, sufficient tolerances and convenience for erection.
2. Precast highway guardrail transitions.
3. Manufacture, delivery, storage, transport, unloading, erection and attachment of all plant-precast structural concrete units.
4. Furnishing and installation of all items of hardware such as loose angles, inserts, reglets, complete bolt assemblies, clip angles, miscellaneous steel, shims, nuts, etc. as required for the manufacture, handling, erection, and attachment of all precast structural concrete units.
5. Materials and labor to prepare the surface receiving the precast concrete such as grout pads, leveling bolts, shims, etc. as required to place the precast structural concrete units.
6. Preparation and submission of Design and Shop Drawings sealed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts.
7. Preparation and submission of manufacturer's quality control program and production schedule.
8. Protection of all plant-precast structural concrete work during construction.

1.2 References

A. Erection, attachment, and grouting of precast structural concrete shall be performed under the direction of a supervisor with proven experience in similar work.

B. The materials and work shall conform to the latest edition and latest addenda thereto of the following codes, standards and documents.

1. American Society for Testing and Materials (ASTM)

a. ASTM A82 Standard Specification for Steel Wire, Plain, for Concrete Reinforcement

b. ASTM A185 Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement

c. ASTM A1064 Standard Specification for Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

d. ASTM A615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

e. ASTM C33 Concrete Aggregates

f. ASTM C94 Ready Mix Concrete

g. ASTM C150 Portland Cement

h. ASTM C171 Standard Specification for Sheet Materials for Curing Concrete

i. ASTM C260 Air-Entraining Admixtures for Concrete

j. ASTM C494 Chemical Admixtures for Concrete

k. ASTM C1059 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete

l. ASTM C1107 Packaged Dry, Hydraulic-Cement Grout (Non-shrink)

m. ASTM D41 – Standard Specification for Asphalt Primer Used in Roofing, Damp-proofing, and Waterproofing.

2. American Concrete Institute (ACI)

a. ACI SP-66 Detailing Manual

b. Maintain copy of ACI SP 15 Field Reference Manual on site.

3. Precast/ Concrete Institute (PCI)

a. PCI MNL-116 Quality Control for Plants and Production of Structural Precast Concrete Products

b. PCI MNL-120 Design Handbook – Precast and Prestressed Concrete

1.3 Submittals

A. Shop drawings for all Precast Concrete Bridge Elements shall include the following:

1. Description of methods and sequence of placement of each Element.

2. Locations and details of all the lifting devices, including supporting calculations, type, and amount of any additional reinforcing required for lifting. Design all lifting devices based on the no cracking criteria in Chapter 8 of the PCI Design Handbook (seventh edition).

3. Locations of construction joints, utility openings, and all erection information.

4. Minimum compressive strength attained prior to handling the precast elements.

B. The Contractor shall not order materials or begin work until receiving final approval of the shop detail drawings. Fabrication of any components shall not commence prior to the approval of the calculations and shop drawings by the Engineer.

C. The Contractor shall ensure that each Shop Drawing, Working Drawing, or Sketch submitted to the Engineer has been certified by the personal legible signature of the Professional Engineer in charge of work for the manufacturer and the initial of the individual actually preparing the Shop Drawing. All submitted Shop Drawings shall be signed and sealed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts.

D. Product data for each type of product indicated.

E. Design mixes for each concrete mix.

PART 2 – PRODUCTS

2.1 General

A. All materials shall comply with the Specifications, Standards, and Codes referenced within this Section.

B. Concrete shall have a minimum strength of 5,000 PSI in 28 days, unless otherwise shown on the plans.

C. The manufacturer shall be an approved Precast/ Concrete Institute (PCI) contractor.

D. Precast members containing visible hairline cracks and are less than 0.02 inches in width, may be accepted, except that cracks larger than 0.005 inches in width for surfaces exposed to the weather shall be repaired. Repairs to precast members with cracks greater than 0.002 inches in width shall be approved by the Engineer. Any precast member that is structurally impaired or contains honeycombed sections deep enough to expose reinforcing will be rejected.

2.2 Reinforcement

A. Reinforcing Steel: ASTM A615, Grade 60, deformed billet steel bars.

B. Steel Welded Wire Fabric: ASTM A185, plain type, flat sheets.

2.3 Concrete Materials

A. Portland Cement: ASTM C150, Type I or Type II.

B. Fine and Coarse Aggregates: ASTM C33.

C. Water: Clean and not detrimental to concrete.

2.4 Admixtures

A. Air Entraining Admixture: ASTM C260.

B. Water Reducing Admixture: ASTM C494, Type A.

C. Provide concentrated pigments specially processed for mixing into concrete and complying with ASTM C979. Color admixtures containing carbon black are not acceptable.

D. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05 percent chloride ions shall not be used.

2.5 Accessories

A. Bonding Agent: Sika Armatec 110 EpoCem or equivalent.

B. Non Shrink Grout: Five Star Grout by U.S. Grout Corp., Masterflow 713 by Master Builders or SikaGrout 212 by Sika or equivalent.

C. Dovetail Anchor Slots: Minimum 20 gage thick galvanized steel; 1 inch wide back, 1 inch deep, 8 inch throat.

2.6 Grout Materials

A. Sand-Cement Grout: Portland cement, ASTM C 150, Type I or II, and clean, natural sand, ASTM C 144. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

B. Nonemetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, Portland cement, shrinkage-compensating agent, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application.

PART 3 – EXECUTION

3.1 General

A. Installation and workmanship shall conform to the recommendation of all applicable American Concrete Institute, Portland Cement Association, and the Concrete Reinforcing Steel Institute (CRSI) guidelines.

3.2 Surface Repair

A. Prior to erection, and again after installation, precast members shall be checked for damage, such as cracking, spalling and honeycombing. As directed by the Engineer, precast members that do not meet the surface finish requirements specified herein shall be repaired, or removed and replaced with new precast members.

3.3 Formwork Erection

A. Erect in accordance with the approved Shop Drawings. Brace precast members, unless design calculations submitted with the Shop Drawings indicate bracing is not required. Follow the manufacturer's recommendations for maximum construction loads. Place precast members level, plumb, square, and true within tolerances. Align member ends.

3.4 Anchorage

A. Provide anchorage for fastening work in place. Conceal fasteners where practicable. Make threaded connections up tight and nick threads to prevent loosening.

3.5 Openings

A. Holes or cuts requiring reinforcing to be cut, which are not indicated on the approved shop drawing, shall only be made with the approval of the Engineer and the precast manufacturer. Drill holes less than 12 inches in diameter with a diamond tipped core drill.

3.6 Grouting

A. Clean and fill indicated keyways between precast members and other indicated areas, solidly with non-shrink grout. Provide reinforcing where indicated. Remove excess grout before hardening. Cover grouted exterior surfaces with sealant.

(END OF SECTION 03 41 00)

Attachment E
Revised Specification Section 34 80 00 – Bridge Structure

(Revised to correct concrete mix design for partial depth concrete repairs)

SECTION 34 80 00

ALTERATION TO BRIDGE STRUCTURE NO. W-40-029 (2D8)

PART 1 - GENERAL

1.1 Description

A. The work under this item shall conform to the relevant provisions of the 2025 Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highway and Bridges, and the specific requirements stipulated below for the component parts of this item. For those component parts where no specific requirements are stipulated, the Standard Specifications shall apply, except for payment.

B. Work under this item shall include all materials, equipment and labor needed to construct the following:

1. Provide facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the work specified in this Section, and as shown on the Plans.
2. Concrete repairs to culvert sidewalls, wingwalls and deck surface.
3. Furnish and install the cast-in-place concrete sidewalk, safety curb, and moment slabs.
4. Fabricate, transport and install the precast highway guardrail transitions.
5. Fabricate, transport, and install the S3-MTL4 bridge railing, and all necessary ancillary items.
6. Design, furnish, and install all necessary ancillary items, in accordance with the respective schedule of component parts.
7. Examine all other Sections of the Specifications for requirements which affect work of this Section, whether or not such work is specifically mentioned in this Section.
8. Coordinate work with that of all other trades or contracts affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

C. The work does not include any items listed separately in the proposal. Payment for materials shown on the Plans as being part of this culvert structure or which may be incidental to its construction and are not specifically included for payment under another item shall be considered incidental to the work performed under this item and shall be included in the unit price of the component of which they are part.

1.2 Reference Standards

A. 2025 Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highway and Bridges. This document is referenced by language “Standard Specifications”, “Section”, and “Subsection” in the following special provisions.

1.3 Submittals

A. Submit description of methods and sequence of placement of each respective item included in the improvement of the Bridge Structure.

B. Demolition plan for the removal of the existing reinforced concrete sidewalks and steel railings.

C. Prior to the start of demolition and in accordance with Subsection 5.02 of Division I of the *Standard Specifications*.

D. Demolition shall not begin prior to the approval of the construction procedure by the Engineer.

E. Proposed protection measures for removal of steel railings, reinforced concrete and concrete cleaning.

F. Prior to the start of demolition and in accordance with Subsection 5.02 of Division I of the *Standard Specifications*.

G. Demolition shall not begin prior to the approval of the construction procedure by the Engineer.

H. Shall include, but not be limited to, drawings that indicate the measures proposed for protecting individuals and property, environmental protection, dust and debris control, and noise control. Type and location of all measures shall be included.

I. Proposed drill and grout installation and testing procedures.

J. Installation shall not begin prior to the approval of the Engineer.

K. Shall include, but not be limited to, sequence of installation and testing, and all materials and equipment necessary for proper installation.

L. Shop drawings for all precast concrete shall be in accordance with *Contract Provision 03 41 00 – Precast Concrete*.

M. Shop drawings for all cast-in-place concrete shall be in accordance with *Contract Provision 03 30 55 – Cast-In-Place Concrete*.

N. Shop drawings for all Steel Reinforcement for Structures – Epoxy Coated

1. Prior to fabrication and for approval in accordance with Subsection 5.02 of Division I of the *Standard Specifications*.
2. Fabrication shall not begin prior to approval of the shop drawings by the Engineer.
3. Shall include, but not be limited to, layout plans, bend diagrams, and typical sections.

O. Shop Drawings for Metal Bridge Railing (3 Rail), Steel (Type S3-MTL4)

1. Prior to fabrication and for approval in accordance with Section 5.02 of the Standard Specifications
2. Fabrication shall not begin prior to approval of the shop drawings by the Engineer.
3. Shall include, but not be limited to, layout plans, typical sections and ancillary items.

PART 2 - PRODUCTS

2.1 Cement Concrete Mix Design

A. Cement concrete materials shall conform to the relevant provisions of Subsection 901 of Division II of the *Standard Specifications*. The following cement concrete mix designs shall be used to complete the project:

1. 5000 PSI, 3/4 IN., 685 HP Cement Concrete
    a. Sidewalk, safety curb, moment slabs, and precast highway guardrail transitions
2. 5000 PSI, 3/8 IN., 710 HP Cement Concrete
    a. Partial Depth Repairs

2.2 Steel Reinforcement for Structures - Epoxy Coated

A. All reinforcing steel and support devices shall be epoxy coated and shall conform to the relevant provisions of Subsection M8.01.07 of Division III of the *Standard Specifications*.

B. Accessories supporting epoxy coated bars, including mechanical reinforcing bar splicers, shall also be epoxy coated.

2.3 Drilling and Grouting Dowels

A. Dowel material shall conform to the relevant provisions of Subsection 901 of Division II of the *Standard Specifications*.

B. Grout shall be non-shrink cementitious grout chosen from the MassDOT Qualified Construction Material List and approved by the Engineer.

C. Epoxy shall be chosen from the MassDOT Qualified Construction Material List and approved by the Engineer.

2.4 Membrane Waterproofing for Bridge Decks

A. Membrane waterproofing shall conform to the relevant provisions of Subsection M9.08.0 of Division III of the *Standard Specifications*.

2.5 Metal Bridge Railing (3 Rail), Steel (Type S3-MTL4)

A. S3-MTL4 Bridge Railing materials shall conform to the relevant provisions of Subsection M8.13.1 of Division III of the *Standard Specifications*.

B. All steel, except for the 5/8" anchor plate and fasteners, shall be galvanized and painted black. Anchor plate shall be galvanized only. Heads of 7/8" diameter round head bolts shall be painted to match the rail.

PART 3 - EXECUTION

3.1 5000 PSI HP Cement Concrete

A. The work under this heading shall conform to the relevant provisions of Section 901 of the Standard Specifications, *Contract Provision 03 41 00 – Precast Concrete* and *Contract Provision 03 30 55 – Cast-In-Place Concrete*, as required. Work shall consist of furnishing and installing high performance concrete for the following bridge elements:

1. Highway guardrail transitions
2. Cast-in-place moment slab coping
3. Sidewalks within the limits of culvert work
4. Concrete Repairs

3.2 Steel Reinforcement for Structures (Epoxy Coated)

A. Steel reinforcement for structures shall conform to Section 910 of the Standard Specifications and the following:

1. Mechanical reinforcing bar splicers shall be used as necessary at construction joints and other locations as indicated on the Plans. Mechanical reinforcing bar splicers shall be considered as incidental to the work involved in furnishing and placing of reinforcing steel. All mechanical reinforcing bar splicers shall be chosen from the MassDOT Qualified Construction Materials List and submitted to the Engineer for approval.
2. Accessories supporting epoxy coated bars, including mechanical reinforcing bar splicers, shall also be epoxy coated. Specified clearances, cover requirements, and all other reinforcing steel geometry requirements shall be maintained. Individual and continuous slab bolsters and chairs shall be of type to suit various conditions encountered and must be capable of supporting a 300-lb load without damage or permanent distortion.
3. No materials shall be fabricated or shipped prior to approval of the shop drawings by the Engineer.

3.3 Drilling and Grouting Dowels

A. Dowels to be epoxy grouted shall be prepared and installed in accordance with the Manufacturer's recommendations. Materials and installation plan to be submitted to the Engineer for approval prior to installing the dowels.

B. All dowel holes into existing concrete shall be cored with a diamond tipped bit. Impact and percussion type drills will require prior approval of the Engineer. The inner surfaces of the dowel holes shall be scored to develop sufficient keying action. The method of scoring of the dowel hole's inner surfaces shall be subject to the approval of the Engineer. Holes shall be blown clear of any debris and must have the approval of the Engineer prior to the placement of any grout material.

C. The coring operation shall be performed without damage to any portion of the existing structure that is to remain in place. Any damage to any portion of the existing structure that is

to remain in place shall be repaired to a condition equal to or better than that existing prior to the beginning of the Contractor's operations and shall be repaired at the Contractor's expense.

D. The grout, cored hole diameter, and embedment depth shall be field tested, as specified below, prior to approval for use on this project.

E. A test dowel bar shall be installed in existing concrete culvert and tested by the Contractor for pullout. The pullout force shall correspond to 50% of the yield strength of the bar as to prevent splitting and cracking of the concrete. If the tested bar pulls out or if the surrounding concrete shows signs of cracking, the Contractor must adjust the hole diameter, embedment length, and/or grouting material to meet this test requirement, as well as being responsible for repairs of any damage. Testing shall not be made on a production dowel bar.

F. All testing of the drilled and grouted dowels shall be performed by the Contractor and is incidental to the work under this heading. The method of applying the tension test load to the dowels shall conform to ASTM E488. The details of the testing equipment used and the locations and details of the test dowel shall be submitted to the Engineer for approval. The Contractor shall perform this test as soon as possible in order to eliminate delays in construction due to the approval process. Dowels shall not be ordered until the embedment lengths have been approved by the Engineer.

G. The Contractor shall strictly follow the recommendations of the manufacturer for mixing and placing the grout material prior to the placement of the dowels. The Contractor shall, at a minimum, adhere to the ACI code requirements regarding minimum and maximum temperatures while placing the grout. Any excessive grout around the hole after placement of the dowel shall be struck off smooth while the grout is still fresh.

H. The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to any coring of the proposed dowel holes to instruct the work crews in proper dowel installation procedures.

I. The field representative shall remain at the job site after work commences and continue to instruct until the representative, the Contractor and the Engineer are satisfied that the crew has mastered the technique of installing the dowels successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor, Inspector and/or Engineer. The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Engineer.

J. The Contractor shall be completely responsible for the expense of the services of the required field representative and the Contract Unit Price shall be considered as full compensation for all costs in connections therewith.

K. The Contractor shall have no claim for any variation in the diameter of the hole, the method of coring the hole, or the type of grout used in anchoring the proposed dowels.

3.4 S3-TL4 Bridge Railing

A. Installation of the railing shall conform to the relevant provisions of Section 975 of the Standard Specifications.

B. The railing is to be fabricated and installed in accordance with the Plans and shall not begin without approval of the Engineer.

(END OF SECTION 34 80 00)